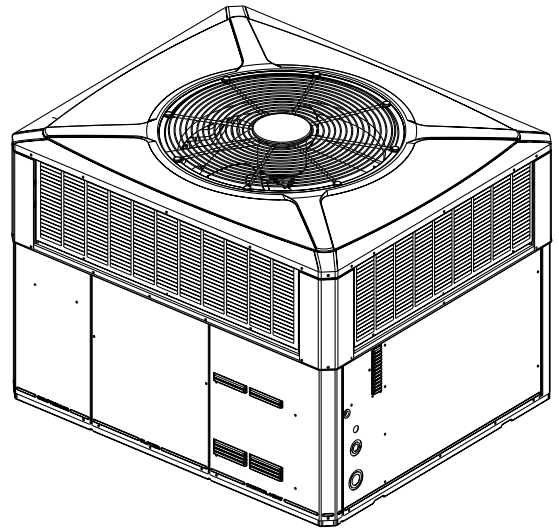


# Submittal

## Single Packaged Heat Pump, 15 SEER2 Two Stage, Convertible, 5 Ton, R-410A

4WCZ5060E3000A



*Note: "Graphics in this document are for representation only. Actual model may differ in appearance."*

*Note: "Unit specific Service Facts available online."*

# SAFETY SECTION

**Important** — This document contains a wiring diagram, a parts list, and service information. This is customer property and is to remain with this unit. Please return to service information pack upon completion of work.

## ⚠ WARNING

### HAZARDOUS VOLTAGE!

Failure to follow this Warning could result in property damage, severe personal injury, or death.

Disconnect all electric power, including remote disconnects before servicing. Follow proper lockout/tagout procedures to ensure the power cannot be inadvertently energized.

## ⚠ WARNING

### SAFETY AND ELECTRICAL HAZARD!

Failure to follow this Warning could result in property damage, severe personal injury, or death.

These servicing instructions are for use by qualified personnel only. To reduce the risk of electrical shock, do not perform any servicing other than that contained in these operating instructions unless you are qualified to do so.

## ⚠ CAUTION

### GROUNDING REQUIRED!

Failure to inspect or use proper service tools may result in equipment damage or personal injury. Reconnect all grounding devices. All parts of this product that are capable of conducting electrical current are grounded. If grounding wires, screws, straps, clips, nuts, or washers used to complete a path to ground are removed for service, they must be returned to their original position and properly fastened.

## ⚠ WARNING

### UNIT CONTAINS R-410A REFRIGERANT!

Failure to use proper service tools may result in equipment damage or personal injury.

R-410A operating pressure exceeds the limit of R-22. Proper service equipment is required. Service using only R-410A Refrigerant and approved POE compressor oil.

## ⚠ WARNING

### SAFETY HAZARD!

Operating the unit without the access panels properly installed may result in severe personal injury or death.

Do not operate the unit without the evaporator fan access panel or evaporator coil access panel in place.

## ⚠ WARNING

### WARNING!

This product can expose you to chemicals including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

**Important:** Wear appropriate gloves, arm sleeve protectors and eye protection when servicing or maintaining this equipment.

**Important:** Air filters and media wheels or plates shall meet the test requirements in UL 900.

# Product Specification

Model	4WCZ5060E3000A
RATED Volts/PH/Hz	208-230 / 3 / 60
<b>PERFORMANCE COOLING<sup>(a)</sup></b>	
BTUH (High)	56500
Indoor Airflow (CFM) (High)	1775
Power Input (KW)	5.12
BTUH (Low)	44000
Indoor Airflow (CFM) (Low)	1250
Power Input (KW)	2.85
EER2 / SEER2 BTUH/Watt-Hr <sup>(b)</sup>	11.0 / 14.65
Sound Power Rating [dB(A)] <sup>(c)</sup>	74
<b>PERFORMANCE HEATING</b>	
(High Temp.) BTUH/COP (High)	55500 / 3.58
Power Input (KW)	4.62
(Low Temp.) BTUH/COP (High)	35000 / 2.44
Power Input (KW)	4.2
(High Temp.) BTUH/COP (Low)	37600 / 3.38
Power Input (KW)	3.26
(Low Temp.) BTUH/COP (Low)	19400 / 1.80
Power Input (KW)	3.15
HSPF2 (BTUH/Watt-Hr)	7.45
<b>POWER CONN. — V/Ph/Hz</b>	
Min. Brch. Cir. Ampacity <sup>(d)</sup>	30
Fuse Size — Max. (amps)	45
Fuse Size — Recmd. (amps)	45
<b>COMPRESSOR</b>	
	2 STAGE SCROLL
VOLTS/PH/HZ	208-230 / 3 / 60
R.L. Amps — L.R. Amps	16.5 / 110
<b>OUTDOOR COIL — TYPE</b>	
Rows/F.P.I	2 / 24
Face Area (sq. ft.)	23.57
Tube Size (in.)	3/8
Refrigerant Control	EXPANSION VALVE
<b>INDOOR COIL — TYPE</b>	
	PLATE FIN
Rows/F.P.I	4 / 15
Face Area (sq. ft.)	5.0
Tube Size (in.)	3/8
Refrigeration Control	EXPANSION VALVE

Model	4WCZ5060E3000A
Drain Conn. Size (in.)	3/4 FEMALE NPT
<b>OUTDOOR FAN — TYPE</b>	
	PROPELLER
DIA. (IN.)	28.2
DRIVE/NO. SPEEDS	DIRECT / 1
CFM @ 0.0 in. w.g. <sup>(e)</sup>	4700
Motor — HP/ R.P.M	1/4 / 830
Volts/Ph/Hz	208-230 / 1 / 60
F.L. Amps/L.R Amps	1.4 / 3.4
<b>INDOOR FAN — TYPE</b>	
	CENTRIFUGAL
Dia. x Width (in.)	11 x 10
Drive/No. Speeds	DIRECT / VARIABLE
CFM @ 0.0 in. w.g. <sup>(f)</sup>	<b>SEE FAN PERFORMANCE TABLE</b>
Motor — HP / R.P.M.	1 / VARIABLE
Volts/Ph/Hz	208-230 / 1 / 60
F.L. Amps/ L.R Amps	6.9 / 6.9
<b>FILTER / FURNISHED</b>	
	NO
Type Recommended	THROWAWAY
Recmd. Face Area (sq. ft) <sup>(g)</sup>	5.3
<b>REFRIGERANT</b>	
Charge (lbs.)	9.8
Subcooling	10° F
<b>DIMENSIONS</b>	
Crated (in.)	52.0 / 47.0 / 62.0
<b>WEIGHT / Shipping / Net (lbs.)</b>	
	623 / 495

(a) Rated in accordance with AHRI Standard 210/240.

(b) Rated in accordance with D.O.E. test procedure.

(c) Sound Power values are not adjusted for AHRI 270-95 tonal corrections.

(d) Calculated in accordance with currently prevailing Nat'l Electrical Code.

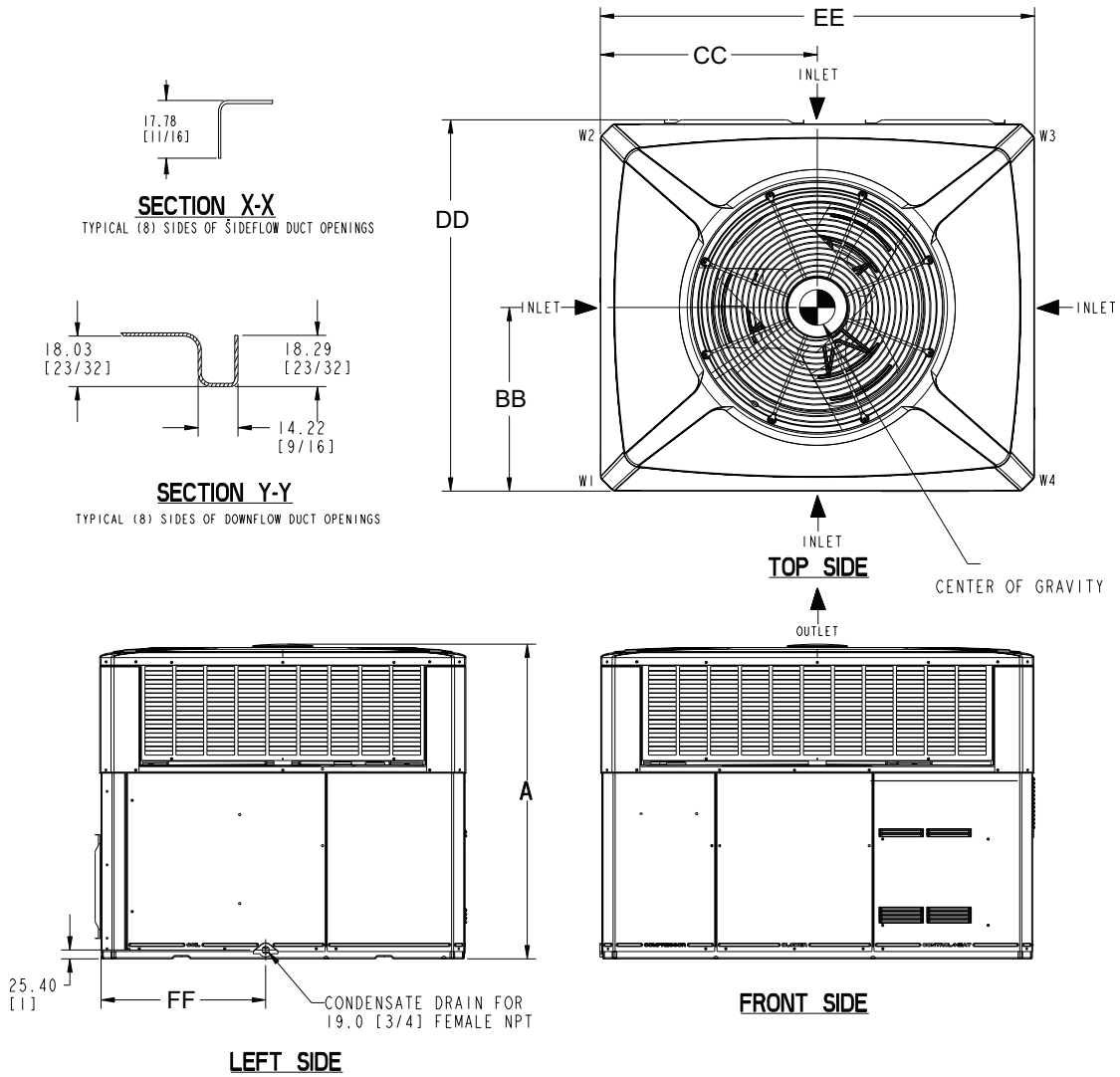
(e) Standard Air — Dry Coil — Outdoor.

(f) Standard Air — Dry Coil — Indoor

(g) Filters must be installed in return air stream. Square footages listed are based on 300 f.p.m. face velocity. If permanent filters are used size per manufacturer's recommendation with a clean resistance of 0.05" W.C.

# Outline Drawings

Figure 1. 2 - 5 Ton Models



	2 - 3 TON Units		3.5 - 5 TON Units	
	RECOMMENDED SERVICE CLEARANCE mm [Inches]			
	W/ ECONOMIZER		W/ ECONOMIZER	
BACK SIDE	305 [12]	762 [30]	305 [12]	762 [30]
LEFT SIDE	762 [30]	914 [36]	914 [36]	1067 [42]
RIGHT SIDE	610 [24]	-	610 [24]	-
FRONT SIDE	1067 [42]	-	762 [30]	-
CLEARANCE TO COMBUSTIBLE MATERIAL mm [Inches]				
BOTTOM	0		0	
BACK SIDE	25 [1]		25 [1]	
LEFT SIDE	152 [6]		152 [6]	
RIGHT SIDE	152 [6]		152 [6]	
FRONT SIDE	305 [12]		305 [12]	
TOP	914 [36]		914 [36]	
DIMENSIONS mm [Inches]				
A	HEIGHT OF UNIT - TABLE NEXT PAGE			
BB	CENTER OF GRAVITY - TABLE NEXT PAGE			
CC	CENTER OF GRAVITY - TABLE NEXT PAGE			
DD -Depth	1093.72 [43-1/16]		1173.99 [46-1/4]	
EE -Width	1284.99 [50-5/8]		1535.94 [60-1/2]	
FF	497.8 [19-5/8]		576.00 [22-11/16]	

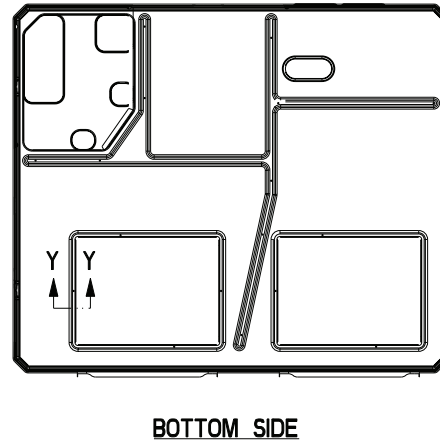
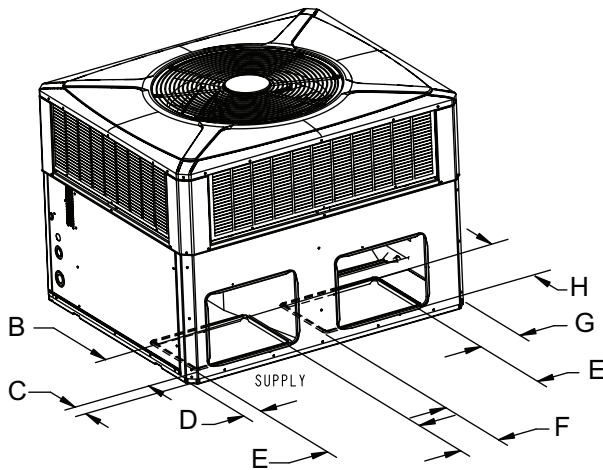
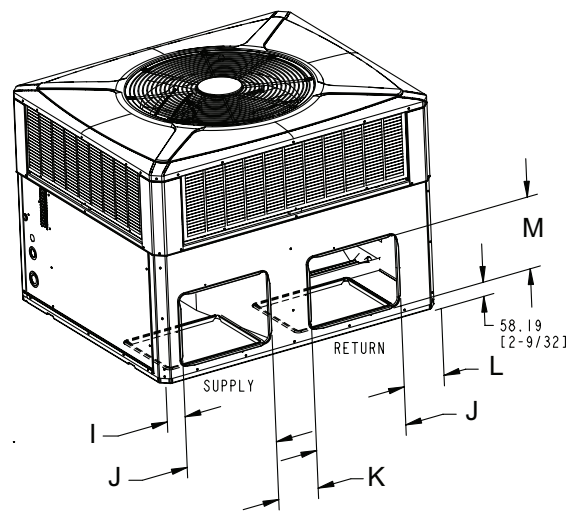


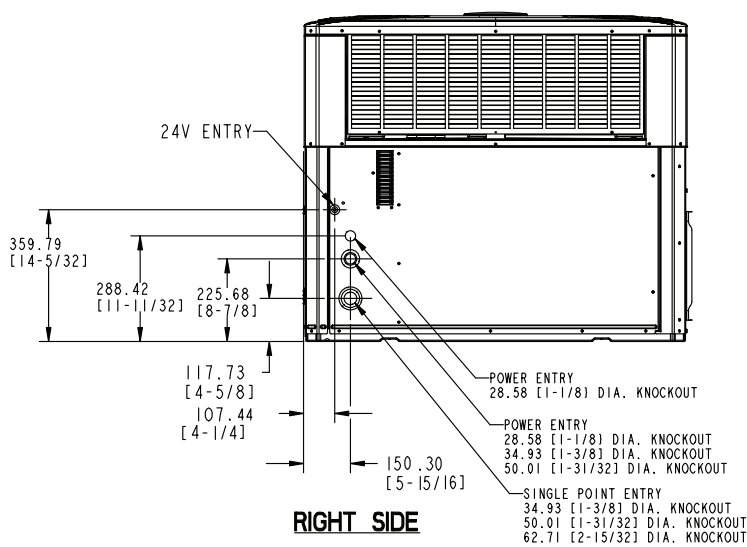
Figure 2. 2 - 5 Ton Models



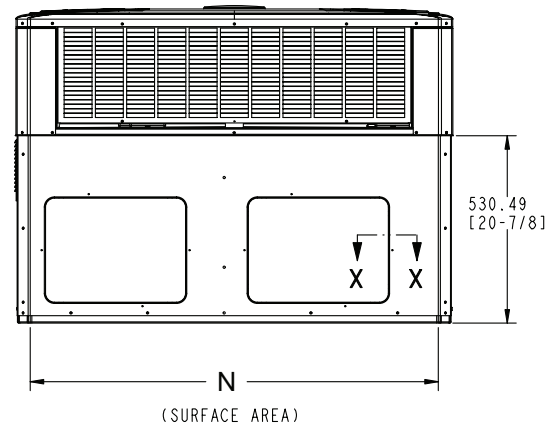
BOTTOM DUCT OPENINGS



BACK DUCT OPENINGS



RIGHT SIDE



BACK SIDE

	PHYSICAL DIMENSIONS mm (in)													
	A	B	C	D	E	F	G	H	I	J	K	L	M	N
4WCZ5024	949.33 (37.37)	304.80 (12.0)	92.33 (3.63)	66.51 (2.62)	406.40 (16.0)	167.89 (6.61)	173.46 (6.83)	304.80 (12.0)	48.35 (1.90)	398.22 (15.67)	176.07 (6.93)	176.68 (6.95)	296.62 (11.67)	1155.45 (45.49)
4WCZ5036														
4WCZ5048	1050.93 (41.37)	457.20 (18.0)	82.16 (3.23)	82.16 (3.23)	381.00 (15.0)	244.09 (9.61)	325.49 (12.80)	381.00 (15.0)	86.25 (3.39)	449.02 (17.67)	176.07 (6.93)	329.58 (12.97)	372.82 (14.67)	1351.95 (53.22)
4WCZ5060					457.20 (18.0)									

	Corner Weights KG/LBS				SHIPPING WEIGHT KG/LBS	UNIT WEIGHT KG/LBS	Center Of Gravity mm[inch]	
	W1	W2	W3	W4			BB	CC
4WCZ5024	60.8 [134]	38.1 [84]	27.2 [60]	42.6 [94]	200.5 [442]	168.7 [372]	401.3 [15.8]	508 [20]
4WCZ5036	60.8 [134]	38.1 [84]	27.2 [60]	42.6 [94]	200.5 [442]	168.7 [372]	401.3 [15.8]	508 [20]
4WCZ5048	68.9 [152]	40.8 [90]	30.8 [68]	52.2 [115]	275.6 [607]	217.5 [479]	414.0 [16.3]	635 [25]
4WCZ5060	80.3 [177]	47.6 [105]	35.8 [79]	60.8 [134]	282.8 [623]	224.5 [495]	414.0 [16.3]	635 [25]

# Indoor Fan Performance

Table 1. Airflow Tables

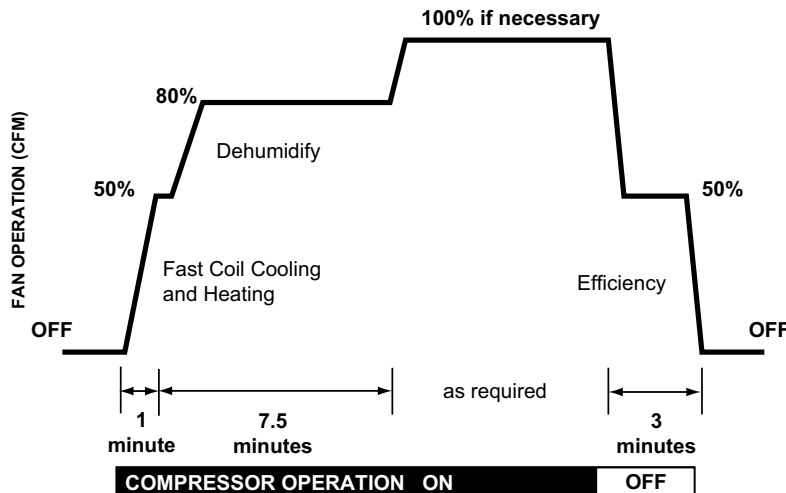
4WCZ5060		EXTERNAL STATIC PRESSURE (IN.WG) Horizontal Airflow [Cooling Down Airflow]										
Motor Speed		0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
350 CFM / Ton Setting	Low	-	1163 [1259]	1238 [1219]	1259 [1208]	1256 [1207]	1246 [1206]	1240 [1199]	1237 [1188]	1230 [1185]	-	-
	High	-	1662 [1799]	1768 [1742]	1799 [1726]	1794 [1725]	1780 [1723]	1771 [1712]	1767 [1698]	1757 [1692]	-	-
400 CFM / Ton Setting	Low	-	1443 [1410]	1427 [1393]	1422 [1386]	1422 [1384]	1423 [1383]	1422 [1380]	1418 [1368]	1410 [1344]	-	-
	High	-	2062 [2015]	2038 [1990]	2031 [1980]	2032 [1977]	2034 [1976]	2032 [1971]	2025 [1955]	2015 [1920]	-	-

Airflow with Auxiliary Heat (CFM)			
SWITCH SETTINGS		SELECTION	NOMINAL AIRFLOW
			4WCZ5060
7 - OFF	8 - OFF	LOW	1750 CFM
7 - ON	8 - OFF	HIGH	2000 CFM
7 - OFF	8 - ON	HIGH	2000 CFM
7 - ON	8 - ON	HIGH	2000 CFM

Cooling Off - Delay Options			
SWITCH SETTINGS		SELECTION	NOMINAL AIRFLOW
5 - OFF	6 - OFF	NONE	SAME
5 - ON	6 - OFF	45 SECONDS	100%(a)
5 - OFF	6 - ON	1.5 MINUTES	50%
5 - ON	6 - ON	(b)	50 -100%

(a) This setting is equivalent to the BAY24X045 relay benefit.

(b) This ENHANCED MODE selection provides a ramping up and ramping down of the blower speed to provide improved comfort, quietness, and potential energy savings. The graph below show the ramping process.



# Supplementary Electric Heaters

**Table 2. BAYHTRV305, 308, 310, 315, 320, 325#**

Unit Model	Electric Heater Model	Rated Voltage	Phase	Amps	Heater Capacity		No. of Stages	KW/Stages		MCA	Max. Fuse or HACR CKT BKR Size (4)	Canada Only Max. CKT BKR Size (5)
					KW	BTUH		1	2			
^WCZ5036-060#3	BAYHTRV305	208/240	3	10/12	3.76/5.0	12800/17100	1	3.76/5.0	-	13/15	15/15	15/15
^WCZ5036-060#3	BAYHTRV308	208/240	3	17/19	6.0/8.0	20500/27300	1	6.0/8.0	-	21/24	25/25	25/25
^WCZ5036-060#3	BAYHTRV310	208/240	3	21/24	7.5/10.0	25600/34100	1	7.5/10.0	-	26/30	30/30	30/30
^WCZ5036-060#3	BAYHTRV315	208/240	3	31/36	11.27/15.0	38500/51200	2	7.5/10.0	3.76/5.0	39/45	40/45	40/45
^WCZ5048-060#3	BAYHTRV320	208/240	3	42/48	15.0/20.0	51200/68300	2	7.5/10.0	7.5/10.0	52/60	60/60	60/60
^WCZ5048-060#3	BAYHTRV325#	208/240	3	52/60	18.78/25.0	64100/85300	2	11.26/15.0	7.5/10.0	65/75	70/80	70/80

# Heater uses fuses.

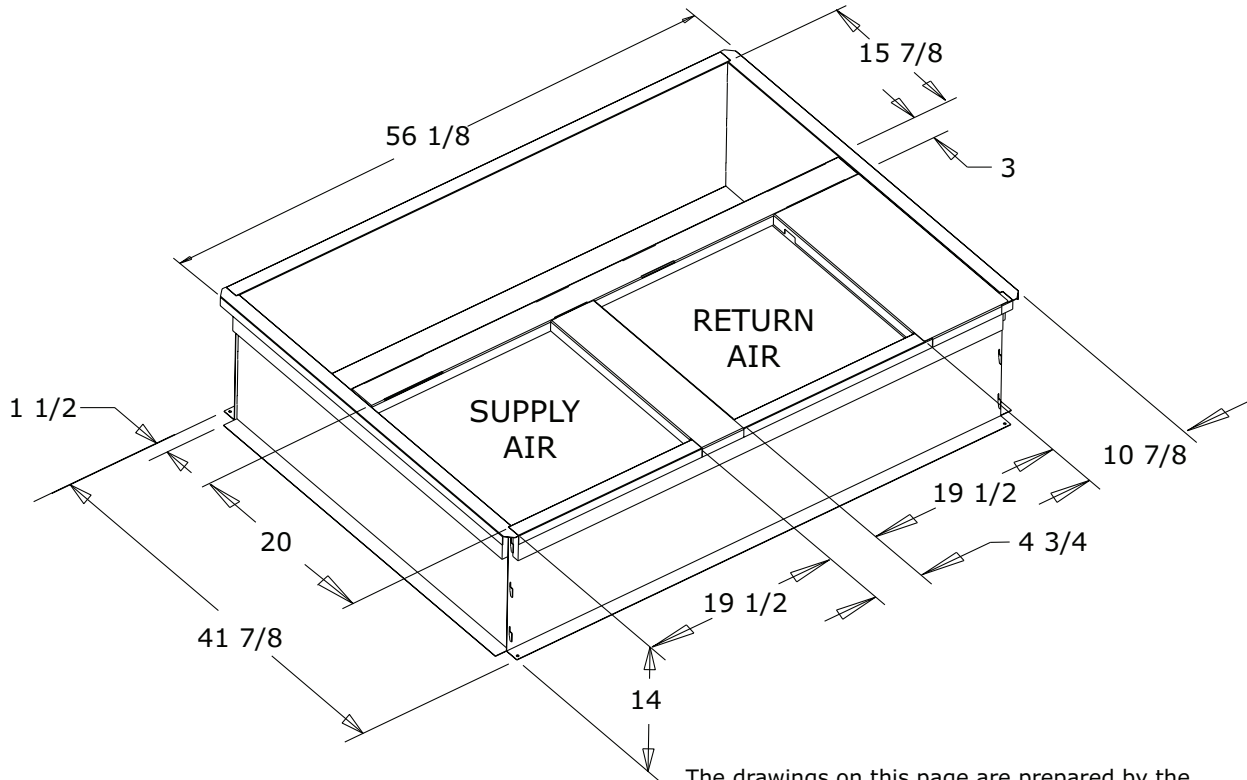
**Table 3. Single Power Entry Kit BAYSPEK61, 64, 65**

Single Power Entry Kit	Heater Model	Unit Model	Min CKT. AMP.	Max. Over Current Protect Device
BAYSPEK061	BAYHTRV305	4WCZ5060E3	44	50
	BAYHTRV308	4WCZ5060E3	53	60
BAYSPEK064	BAYHTRV315	4WCZ5060E3	74	80
	BAYHTRV320	4WCZ5060E3	89	90
BAYSPEK065	BAYHTRV310	4WCZ5060E3	59	70

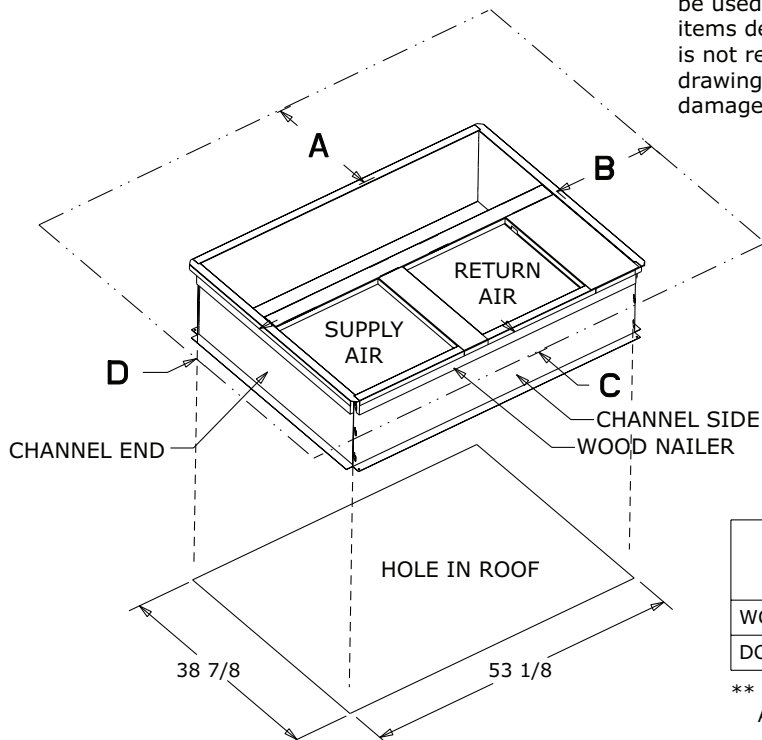
# Full Perimeter Roof Mounting Curb

Figure 3. 3.5 – 5.0 Ton Models

## BAYCURB051A Full Perimeter Roof Mounting Curb



The drawings on this page are prepared by the manufacturer in order to provide detail regarding job layout only. These drawings are not intended to be used as a basis to construct, build or modify the items depicted in the drawings. The manufacturer is not responsible for the unauthorized use of these drawings and expressly disclaims any liability for damages resulting from such unauthorized use.



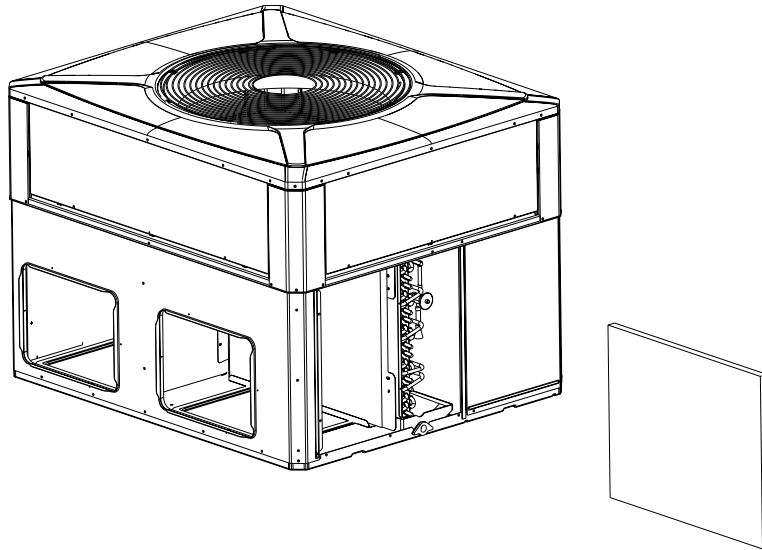
	SERVICE CLEARANCE DIMENSIONS			
	A	B	C	D
WC*/TC*	42.00	36.00	12.00**	24.00
DC*/YC*	42.00	36.00	12.00**	36.00

\*\* 42.00 WITH ECONOMIZER WITH 25% FRESH AIR ACCESSORY

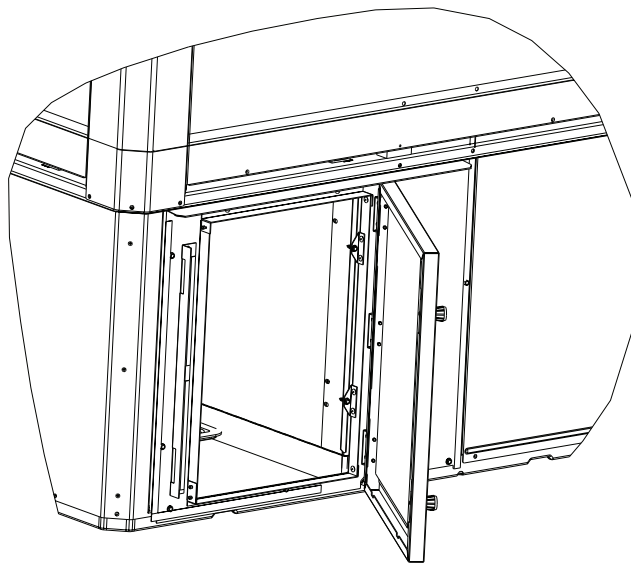


# Optional Equipment – Filter Rack

**Figure 4. BAYFLTR101 Filter Rack (2.0 – 3.0 Ton Models)  
BAYFLTR201 (3.5 – 5.0 Ton Models)  
(Mounts in Filter/Coil Section)**



**Figure 5. BAYACCDOR1A Hinged Filter Access Door (2.0 – 3.0 Ton Models)  
BAYACCDOR2A (3.5 – 5.0 Ton Models)  
Replaces Filter/Coil Access Panel**



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# Optional Equipment – Economizer

**Table 4. BAYECON103, 104A Down Discharge Economizer and Rain Hood (Mounts Over Horizontal Return Air Opening)**

	<b>Economizer</b>	<b>Unit Application Models</b>
	BAYECON103A	2.0 – 3.0 Ton Models
	BAYECON104A	3.5 – 5.0 Ton Models

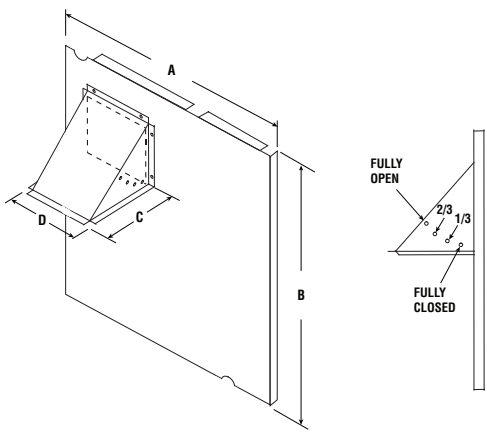
**Table 5. BAYCON203, 204A Horizontal Economizer and Rain Hood**

<b>Economizer</b>	<b>Models</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>
BAYECON203A	2.0 – 3.0 Ton	22"	20"	16-7/8"	15-11/16"	11-11/16"	15"
BAYECON204A	3.5 – 5.0 Ton	26"	22-21/32"	19"	17-11/16"	14-11/16"	21-3/8"

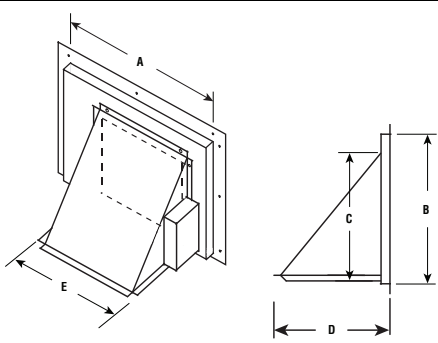
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# Optional Equipment – Outside Air Damper

**Table 6. BAYOSAH001 and 002A Outside Air Damper  
(Replaces Filter/Coil Access Panel)**

	Manual Fresh Air Model	Unit Application Models	A	B	C	D
	BAYOSAH001A	2.0 – 3.0 Ton	22-7/16"	20-11/16"	12-3/8"	9-3/16"
BAYOSAH002A	3.5 – 5.0 Ton	25-3/16"	20-11/16"	12-3/8"	9-3/16"	

**Table 7. BAYDMPR101 and 102A, 25% Motorized Outside Air Damper  
(Mounts Over Horizontal Return Air Opening)**

	Manual Fresh Air Model	Unit Application Models	A	B	C	D	E
	BAYDMPR101A	2.0 – 3.0 Ton	15-13/16"	11-13/16"	10-1/4"	11-1/2"	12-1/4"
BAYDMPR102A	3.5 – 5.0 Ton	18-3/16"	15-1/8"	10-1/4"	11-1/2"	12-1/4"	

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# Mechanical Specifications

## General

The units shall be horizontal airflow as shipped and convertible to downflow. All units shall be factory assembled, piped, internally wired and fully charged with refrigerant. Units shall be certified to UL Standard 1995. All units shall be factory run tested to check cooling operation, fan and blower rotation and control or TXV sequence. Units shall be designed to operate at ambient temperatures between 115°F and 55°F in cooling as manufactured. Cooling performance shall be rated in accordance with A.H.R.I. standards.

## Unit Casing

All components shall be mounted in a weather-resistant steel cabinet with an enamel finish. Access panels shall be provided for unit controls and indoor coil and fans. Indoor air section compartment shall be completely insulated with fireproof, permanent, odorless glass fiber material. Knockouts shall be provided for utility and control connections. Drain connections shall be provided to accommodate indoor water runoff.

## Compressor

The compressor shall be hermetically sealed, high efficiency Climatuff® two-stage compressors. Internal overcurrent and over temperature protection, internal pressure relief shall be standard.

## Refrigeration System

All units shall have TXV in cooling and TXV in heating. Service pressure tap ports, and a refrigerant line filter dryer shall be standard.

## Evaporator Coil (2-4 Ton Models)

All aluminum micro channel, extruded tubes, mechanically bonded to aluminum fins and factory pressure and leak tested at 480-650 psig. All units have TXV to control refrigerant flow.

## Evaporator Coil (5 Ton Models)

Internally enhanced 3/8" OD seamless copper tubing mechanically bonded to aluminum fins, factory pressure and leak tested at 480 - 650 psig. All units have TXV to control refrigerant flow.

## Condenser Coil

The Spine Fin™ condenser coil shall be continuously wrapped, corrosion resistant all aluminum with minimum brazed joints. This coil is 3/8 inch O.D. seamless aluminum tubing glued to a continuous aluminum fin. Coils are lab tested to withstand 2,000 pounds of pressure per square inch. The outdoor coil provides low airflow resistance and efficient heat

transfer. The coil is protected on all four sides by louvered panels.

## Indoor Air Fan

Direct-drive, forward-curved, centrifugal wheel in a Composite Vortica® Blower housing. Motor shall have thermal overload protection. Permanently lubricated motor bearings. Motor/blower assembly isolated from unit with rubber mounts.

## Condenser Fan

Direct-drive, draw thru propeller type. Weather-proofed permanent split capacitor fan motor shall have built-in thermal overload and permanently lubricated motor bearings.

## System Controls

System controls include condenser fan, evaporator fan and compressor contactors.

## Accessories

### Roof Curb

The roof curb shall be designed to mate with the unit and provide support and complete weathertight installation when properly installed. Adhesive back polyurethane sealing strips shall be provided to ensure an airtight seal between supply and return openings of the curb and unit. The roof curb design allows field fabricated ductwork to be connected directly to the curb. Curb ships knocked down for field assembly, and includes factory-installed wood nailer strips.

### Electric Heaters

Each heater assembly shall include power supply fusing if over 48 amps, automatic resetting limit switches and heat limiters for thermal protection. Heaters shall be provided with polarized plugs for quick connection to unit low voltage wiring. Electric heat modules shall be UL listed.

### Single Source Power Entry

This accessory when used with electric heat accessory shall allow single source power connection to unit and heater combination. Single source power entry kits shall have specific matching heater(s). Kit shall include high voltage terminal blocks, fuse blocks and fuses, cut-to-length interconnecting wiring, and junction box (if required) to provide power sources with fuse protection as required for both the unit and accessory heater. Kit components shall install within the unit cabinet in the heater access section. Single source branch power circuit shall be protected and wired in accordance with local codes.

### **Fully Modulating Economizer**

This accessory shall be field installed and be composed of the following items: 0-100% fresh air damper, damper drive motor, fixed dry bulb enthalpy control, and low voltage wiring plug for electrical connections. Solid state enthalpy or differential enthalpy control is optional. Economizer operations shall be controlled by the preset position of the enthalpy control. A barometric relief damper shall be standard with the economizer and provide a pressure operated damper that shall be gravity closing and prohibit entrance of outside air on equipment "off" cycle. Economizer requires BAYRLAY004A relay kit to interface the economizer to the heat pump.

### **Manual Outside Air Dampers**

Rain hood and screen shall be field installed. Suitable for up to 25% outside air.

### **Start Kit**

Extra compressor starting capacity for single phase equipment.

### **Control Options**

#### **Standard Indoor Thermostats**

Two stage heating/cooling or one stage heating/cooling thermostats shall be available in either manual or automatic changeover.

#### **Programmable Electronic Night Setback Thermostat**

Programmable electronic thermostat shall provide heating setback and cooling setup with 7-day, programming capability. 1H/1C or 2H/2C models available.

## About Trane and American Standard Heating and Air Conditioning

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